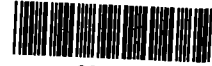


EPA Region 5 Records Ctr.



237063

REMOVAL ACTION PLAN  
FOR  
CHICAGO MODERN PLATING CO.  
CHICAGO, ILLINOIS

Prepared for:  
U.S. Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois

CONTRACT NO. 68-01-7367

TAT-05-G2-01994

TDD NO. 5-9006-22

Prepared by:  
WESTON-MAJOR PROGRAMS  
Technical Assistance Team  
Region V

August 1990

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## 1.0 SITE DESCRIPTION

The Chicago Modern Plating Co. (CMP) site is located at 3029 North Rockwell Street in Chicago, Cook County, Illinois. The approximately 21,000 square foot CMP facility is located in a mixed residential/commercial/industrial area on the city's north side (Figure 1).

The site is bordered by the north branch of the Chicago River to the east, several businesses located across Rockwell Street to the west, the American Envelope Company to the south, and Belmont Avenue to the north. Numerous residences are within a few blocks of the CMP site. Residents and businesses in the area are on city water, which draws from Lake Michigan.

## 2.0 SITE BACKGROUND

The CMP facility began operating on August 1, 1958 and ceased operations on April 19, 1990. In May 1990, CMP filed for Chapter VII bankruptcy in the U.S. Bankruptcy Court.

In June 1990, the U.S. Justice Department Trustee for the CMP bankruptcy case requested that the U.S. Environmental Protection Agency (U.S. EPA) investigate conditions at the site. On June 10, 1990, the U.S. EPA tasked the Technical Assistance Team (TAT) to perform a site assessment at the CMP site.

## 3.0 SITE INSPECTION

On June 27, 1990, TAT members M.T. Klemp, Sally Matz, Kit Noller, and Lisa Kamuf and On-Scene Coordinator (OSC) Charles Gebien conducted a site assessment at the CMP site. The property owner, Daniel R. Arendt, Sr., and Roy Kaufman and Michael O'Brien of the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) were present during the site inspection.

The TAT conducted air monitoring throughout the facility with a photoionization detector (HNU), a radiation meter, a combustible gas indicator (CGI), and a hydrogen cyanide (HCN) monitox unit. No readings above background levels were measured in the ambient air.

The TAT observed nine plating and cleaning lines for brass, zinc, and nickel plating in the CMP facility (Figure 2). In addition, the facility contained a polishing room, a chemical storeroom, a laboratory, a maintenance room, a racking area, two warehouse areas, a clarifier room, a shipping and receiving room, and a wastewater treatment area. Approximate volumes of materials in the cleaning and plating lines and in storage tanks are presented in Table 1.



FIGURE 1  
SITE LOCATION MAP  
CHICAGO MODERN PLATING CO.  
CHICAGO, ILLINOIS

SCALE: 1 INCH = APPROXIMATELY 0.67 MILES

SOURCE: RAND MCNALLY

**WESTON**  
MANAGERS DESIGNERS/CONSULTANTS

**MAJOR  
PROGRAMS  
DIVISION**

**REGION V TECHNICAL ASSISTANCE TEAM**

DRAWN BY	DATE	PCS #
T. KLEMP	7-5-90	2789
APPROVED BY	DATE	TDD #
C. CARON	7-5-90	5-9006-22

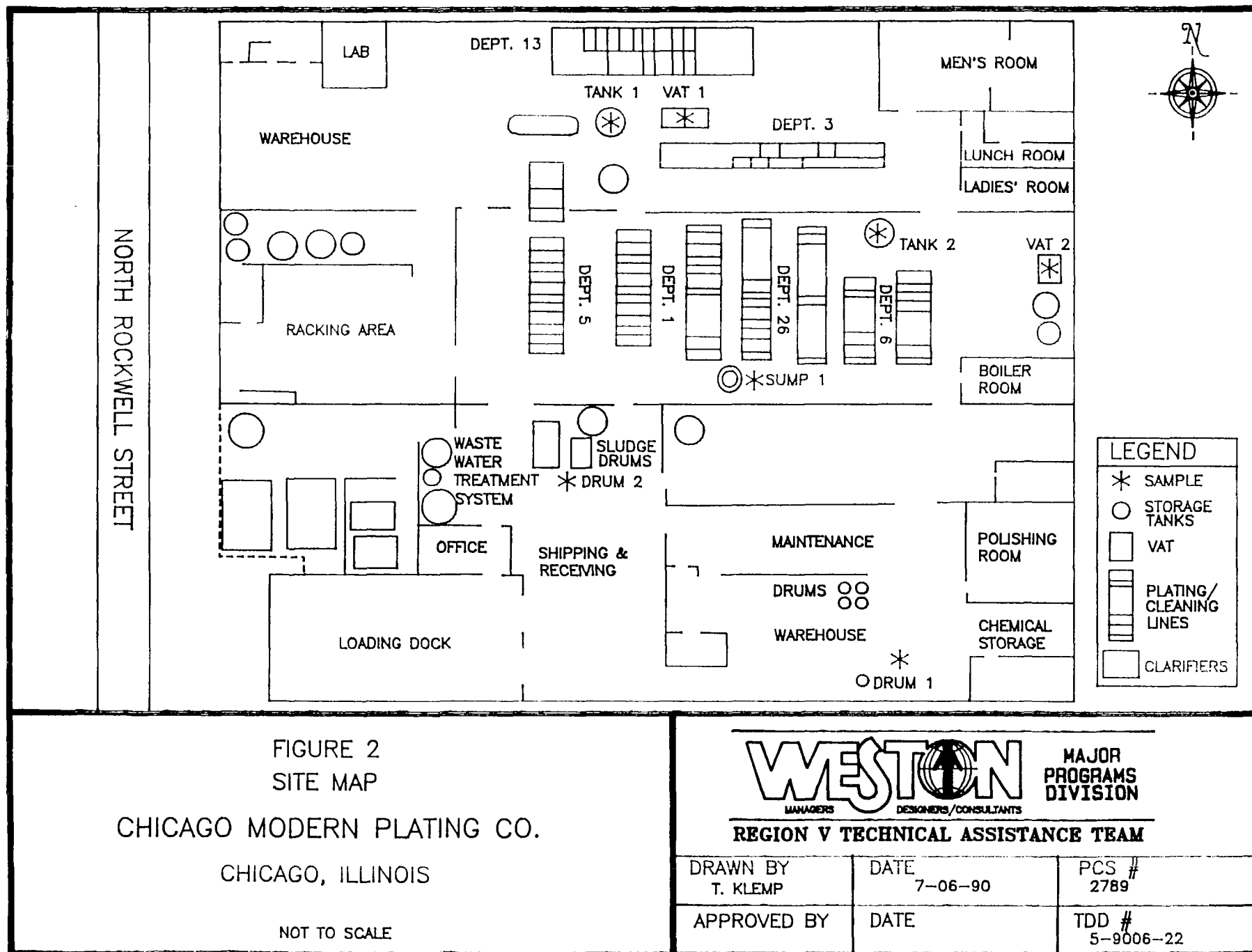


TABLE 1  
ESTIMATED WASTE VOLUMES  
CHICAGO MODERN PLATING CO.  
CHICAGO, ILLINOIS

JUNE 27, 1990

Department	Waste	Volume
1-Plating	Alkaline Zinc Solution	950
1-Plating	Caustic Cleaner	250
1-Plating	Hydrochloric Acid	250
1-Plating	Rinse Water	1250
3-Plating	Alkaline Zinc Solution	1550
3-Plating	Caustic Cleaner	250
3-Plating	Chromic Acid	150
3-Plating	Hydrochloric Acid	225
3-Plating	Rinse Water	750
4-Storage	Zinc Cyanide Solution	3000
5-Plating	Chromic Acid	1200
5-Plating	Nickel Plating Solution	2200
5-Plating	Rinse Water	2800
5-Cleaning	Caustic Cleaner	1600
5-Cleaning	Rinse Water	1600
5-Cleaning	Sulfuric Acid	800
13-Plating	Alkaline Zinc Solution	1500
13-Plating	Caustic Cleaner	500
13-Plating	Chromic Acid	250
13-Plating	Hydrochloric Acid	125
13-Plating	Rinse Water	1000
26-Plating	Brass Solution	1600
26-Plating	Caustic Cleaner	1200
26-Plating	Hydrochloric Acid	475
26-Plating	Rinse Water	1450
Water Storage Tanks		27000
Old Cleaning Line	Caustic Cleaner	800
Old Cleaning Line	Hydrochloric Acid	250
Old Cleaning Line	Rinse Water	500
Mechanical	Nickel Solution	500
Mechanical	Rinse Solution	500

The TAT observed that all plating and cleaning lines were uncovered and contained liquids. Approximately 10 polyethylene storage tanks were observed at the facility, ranging from 900- to 3000-gallons in capacity. A 3000-gallon polyethylene tank containing hydrochloric acid (HCl) was observed on a concrete pad in a fenced area outside the building. The wastewater treatment sand and carbon filter cells also reportedly contained material.

Numerous drums were observed scattered throughout the building, which included several polyethylene drums cut in half and containing unknown materials. Eighty open-top steel drums of wastewater sludge were stacked in the shipping and receiving room and were covered with plastic bags. The TAT observed several of the drums to be leaking. Approximately 50 55-gallon and 50 30-gallon drums which reportedly contained brass cyanide solution were stacked in the warehouse. Drums of chemicals were also observed in the chemical storeroom.

A laboratory, located in the north side of the building, contained numerous incompatible chemicals. The TAT observed a broken window on the east side of the building, under which a vat of unknown material was present. A drum of water and acid was observed near this vat. Several other boarded up windows were observed throughout the facility.

The TAT collected seven liquid samples and one sludge sample from the CMP facility. Liquid samples were collected from two vats which contained unknown liquids, two storage tanks, a drum, and a drainage sump (Figure 2). A blank distilled water sample was also prepared. The sludge sample was collected from a drum containing sludge from the wastewater treatment system. The liquid samples from the vats, tanks, and drum were analyzed for pH, total cyanide, and Hazardous Substance List (HSL) metals. The drainage sump and blank water samples were analyzed for total cyanide and HSL metals. The sludge sample was analyzed for total and reactive cyanide, and Toxicity Characteristic Leaching Procedure (TCLP) metals. Samples were analyzed by Suburban Laboratories in Hillside, Illinois under TAT Analytical Services TDD# 5-9006-L17.

#### 4.0 ANALYTICAL RESULTS

Results of the TAT sampling are presented in Table 2. Both vats and the liquid drum samples contained materials which exhibited the Resource Conservation and Recovery Act (RCRA) characteristic of corrosivity. Total cyanide was detected in all samples collected, ranging from 0.144 parts per million (ppm) to 5.0 percent (%). Elevated levels of zinc were detected in vat #1, tank #2, and drum #1 at levels of 12,869 ppm, 3,145 ppm, and 11,310 ppm, respectively.

TABLE 2

## ANALYTICAL RESULTS OF TAT SAMPLING\*

CHICAGO MODERN PLATING CO.

CHICAGO, ILLINOIS

JUNE 27, 1990

Units are ppm, unless otherwise indicated. pH values are unitless.

Parameter	Vat #1	Vat #2	Tank #1	Tank #2	Drum #1-Liquid	Drum #2**-Sludge	Sump #1	Sump #2
pH	12.5	12.8	9.56	9.94	1.45	NA	NA	NA
Cyanide, total	1.33%	1.77%	5.04	5.0%	1.48	99	0.144B	0.05
Cyanide, reactive	NA	NA	NA	NA	NA	0.585	NA	NA
Aluminum	6.93	13.28	ND	0.12	2.51	NA	0.38	ND
Antimony	ND	ND	ND	0.16	0.94	NA	0.12	ND
Arsenic	0.86	ND	ND	ND	9.07	0.51	ND	ND
Barium	0.25	ND	ND	0.41	3.80	0.50	ND	ND
Beryllium	ND	10.90	ND	ND	ND	NA	ND	ND
Cadmium	0.45	ND	ND	ND	9.07	0.55	ND	ND
Calcium	11.75	14.37	4.73	4.88	58.22	NA	45.80B	8.00
Chromium, total	1.91	ND	0.19	ND	15.89	0.37	14.43	ND
Cobalt	ND	9.04	ND	ND	ND	NA	ND	ND
Copper	19.59	39.55	2.68	702.6	3.42	NA	0.18	ND
Iron	19.93	204.7	1.47	0.63	11.58	NA	1.43B	2.28
Lead	4.88	0.60	ND	0.64	1.99	ND	ND	ND
Magnesium	1.94	0.69	3.73	1.13	14.58	NA	14.60B	1.39
Manganese	30.49	2.75	ND	ND	200.4	NA	ND	0.94
Mercury	ND	ND	ND	ND	0.0007	ND	ND	ND
Nickel	ND	399.4	0.87	3.81	6.89	NA	0.32	ND
Potassium	72.12	122.7	4.22	238.6	2.10	NA	4.23B	3.69
Selenium	ND	ND	ND	0.11	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	8.71%	1926	1993	4.98	1250	NA	137.0B	1.98
Thallium	ND	ND	ND	ND	ND	NA	ND	ND
Tin	7.37	ND	0.13	ND	1.99	NA	ND	ND
Vanadium	ND	ND	ND	ND	ND	NA	ND	ND
Zinc	12869	281.2	0.92	3145	11310	NA	1.69B	0.17

\* Samples analyzed by Suburban Laboratories in Hillside, Illinois.

\*\* TCLP metals analyzed for this sample.

ND = Not detectable at method detection limits.

NA = Not analyzed.

B = Detected in field blank.

## 5.0 THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Conditions observed at the CMP site to be considered in determining the appropriateness of a removal action as outlined in Section 300.415 (b)(2) of the National Contingency Plan (NCP) include:

- o Actual or potential exposure to hazardous substances or pollutants or contaminants to nearby populations, animals, or food chain.
- o Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release, and;
- o Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

### 5.1 Threat of Exposure

The CMP site is located in a mixed residential/commercial/industrial area on the north side of Chicago. An open broken window was observed on the east side of the building. The TAT observed a vat of unknown material with a pH of 12.8 and 1.77% total cyanide directly beneath this window. Stored directly across from this vat was a drum of acid and water with a board lain across the top. Other broken windows in the facility have been boarded shut. Numerous open drums, tanks, and vats containing hazardous material remain in the building. Drums were observed near entranceways and open vats were observed directly below broken windows. The plating lines are uncovered and contain plating solutions, acids, caustic cleaners, and rinse water. A partially full 3000-gallon tank of HCl was observed within a fenced cement yard outside of the building. The cyanide could react with the acid and lethal concentrations of HCN gas could be generated.

Vandals and trespassers could gain access to the facility interior via the broken window. However, the building is equipped with an alarm system, which activates a security company in the event of an unwarranted entry.

### 5.2 Threat of Release

Alkaline zinc solution, caustic cleaner, HCl, sulfuric acid ( $H_2SO_4$ ), chromic acid, cyanide brass solution, cyanide zinc solution, nickel plating solution, and rinse water remain in the uncovered plating lines in this facility. These plating lines appeared to be corroded and have leaked onto the floor. The TAT also observed approximately 10 full or partially full bulk storage tanks located in the facility, many which were cut in half, open vats and drums of waste liquids, and approximately 80 55-gallon open-top steel drums of sludge from the waste water treatment system. The TAT observed that several drums had leaked onto the floor.

### 5.3 Weather Conditions That May Cause Contaminant Migration

The wastewater treatment clarifiers collect both wastewater from the plating lines and rain water. In the case of heavy rains and power loss, overflow of the clarifiers could result, sending contaminated water into the city storm sewers and onto the street. The roof also appeared to leak in several areas, and rain water could react with open containers of acids and cyanide and migrate off site to uncontaminated areas.

### 5.4 Specific Chemical Contamination

The contaminants of concern at this site include acids, caustics, heavy metals, including zinc, copper, and nickel, and cyanide. Acidic and caustic materials were found stored in vats, drums, and plating lines in this facility. In the event of human contact with acidic and caustic materials, severe burns, permanent visual damage, choking, and internal organ damage may result.

Zinc, nickel, brass and chrome plating was the primary operation at this facility. Elevated levels of zinc, copper, and nickel which were detected in the vats, drums, and storage tanks, are often toxic and bioaccumulative. Zinc compounds are severe irritants to the skin, and nickel is flammable as a dust or fume, and is also a carcinogen. Hexavalent chromium compounds are also carcinogenic.

Exposure to high concentrations of reactive cyanide, which has a TLV of 5 milligrams per cubic ( $\text{mg}/\text{m}^3$ ) and an Immediately Dangerous to Life and Health (IDLH) level of  $50 \text{ mg}/\text{m}^3$ , may cause acute symptoms such as paralysis, unconsciousness, convulsions, and a respiratory arrest.

### 6.0 ALTERNATIVE ACTIONS

The proposed actions at the CMP site include the removal of hazardous chemicals stored in drums, vats, and tanks at this former metal plating facility. The actions will be undertaken to mitigate threats posed to human health and the environment by the materials stored in this facility.

### 7.0 COST ESTIMATE

A cost estimate for a removal action at the CMP site is presented in Attachment B. It is estimated that the removal action will require 18 10-hour working days at a cost of \$656,000.

#### Removal Activities

The cost estimate was generated by the Removal Cost Management System (RCMS) using O.H. Materials as the Emergency Response Cleanup services (ERCS) contractor. Estimated costs of transportation and disposal were obtained from Cyanokem in Detroit, Michigan.

Chemical Waste Management (CWM)-Adams Center Landfill in Fort Wayne, Indiana, and CWM-Chemical Services Inc. incinerator in Chicago, Illinois.

The cost estimate proposes a two-stage removal action, with a two-week period between stages for disposal arrangements. During the initial stage, all vats, tanks, plating lines, and drums will be inventoried and sampled, compatibility testing will be performed, contaminated sand and carbon will be removed from the wastewater treatment system, and drums will be overpacked and staged. Composite samples from each waste stream will be collected and sent to disposal facilities for disposal acceptance.

After the wastes have been accepted for disposal, the second stage of this removal action will include pumping wastes into tank trucks for off-site treatment, decontaminating plating lines, tanks, and vats, preparing lab packs, and shipping drums, lab packs, and miscellaneous solid debris off site for disposal.

Costs for disposal of plating, tank, vat, drum, and decontamination water wastes were estimated for treatment at Cyanokem in Detroit, Michigan. Costs for lab pack, spent carbon, and personal protective equipment (PPE) disposal were estimated for incineration at the CWM-Chemical Services Inc. incinerator in Chicago, Illinois. Costs for disposal of contaminated sand and miscellaneous debris were estimated for land disposal at the CWM-Adams Center Landfill in Fort Wayne, Indiana.

# 8.0 COST SUMMARY

## CONTRACTOR COSTS:

Personnel	3 4 3 2 2 2	\$ 99,573.27
Equipment		13,463.14
Subcontracted Items	454 536	26,773.41
Materials		12,150.34
Disposal		276,009.45
Transportation		26,568.96
		<u>454 536 57</u>
15% Contractor Contingency	444,311	68,180.79
SUB-TOTAL		522,719.36
TAT COSTS		33,131.05
TAT (Field Work)		10,468.33
TAT (Office Work)		22,662.72
SUB-TOTAL		555,850.41
15% Contingency		83,377.56
EXTRAMURAL TOTAL		<u>639,227.97</u>
U.S. EPA Costs		16,560.00
PROJECT TOTAL		<u>655,787.97</u>
		or
		656,000.00

ATTACHMENT A

PHOTO LOG

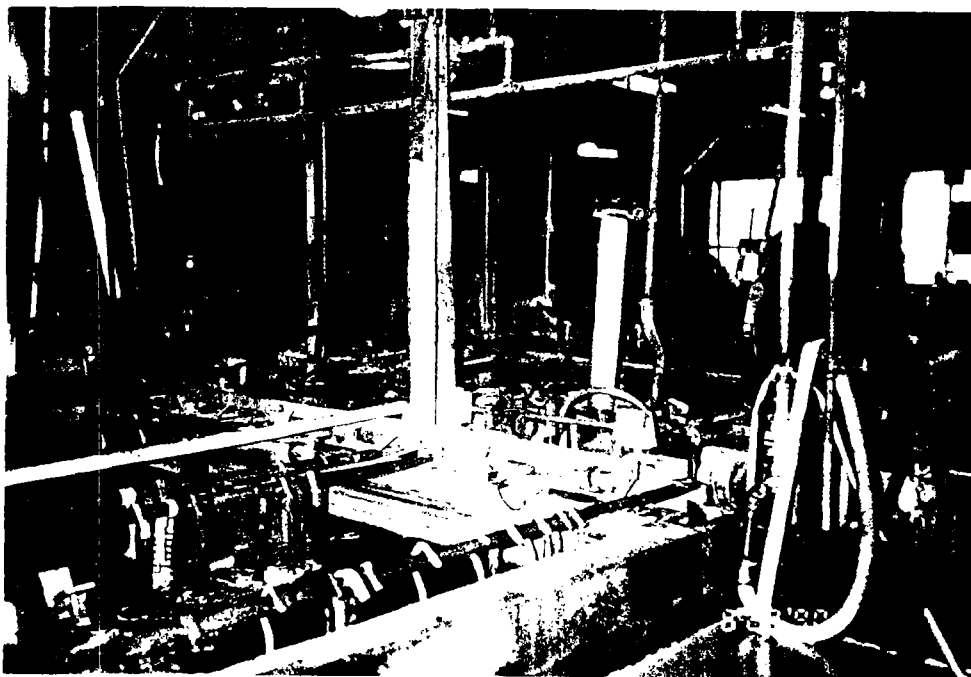


PHOTO: 1  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: DEPT. 6 PLATING AND CLEANING LINES, VIEW EAST.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *K.N.*  
 FILM: 35MM, ISO 200



PHOTO: 2  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: UNCOVERED PLATING LINES.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *K.N.*  
 FILM: 35MM, ISO 200

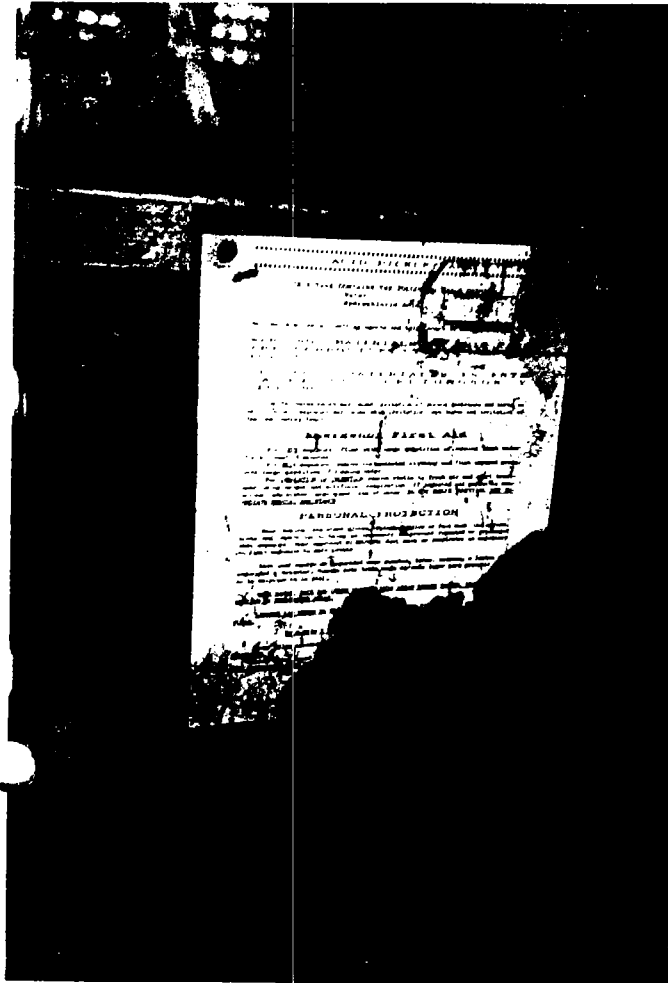


PHOTO: 3  
SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
DESCRIPTION: ACID PICKLE TANK LABEL. "TANK CONTAINS THE FOLLOWING MAJOR CHEMICALS: H<sub>2</sub>O, HCl" "WARNING: MATERIALS IN THIS TANK ARE CORROSIVE AND POISONOUS."  
DATE: 6-27-90  
PHOTOGRAPHER: KIT NOLLER  
FILM: 35MM, ISO 200



PHOTO: 4  
SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
DESCRIPTION: WASTEWATER TREATMENT SLUDGE DRUMS, ZINC CYANIDE STORAGE TANK IN BACKGROUND, VIEW NORTH.  
DATE: 6-27-90  
PHOTOGRAPHER: KIT NOLLER  
FILM: 35MM, ISO 200



PHOTO: 5  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: LABORATORY, VIEW NORTH.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200



PHOTO: 6  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: CHEMICALS STORED ON LABORATORY SHELVES.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200



PHOTO: 7  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: CORROSION OF PLATING LINES.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *icw*  
 FILM: 35MM, ISO 200



PHOTO: 8  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: DRUMS, STORAGE TANKS, AND PLATING LINES, VIEW  
 NORTHEAST.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *icw*  
 FILM: 35MM, ISO 200



PHOTO: 9  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: WASTEWATER TREATMENT SLUDGE DRUMS, NOTE LEAKAGE  
 AND CONDITIONS OF DRUMS.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER  
 FILM: 35MM, ISO 200



PHOTO: 10  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: DRUM OF UNKNOWN MATERIAL STORED NEAR ENTRANCE.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER  
 FILM: 35MM, ISO 200

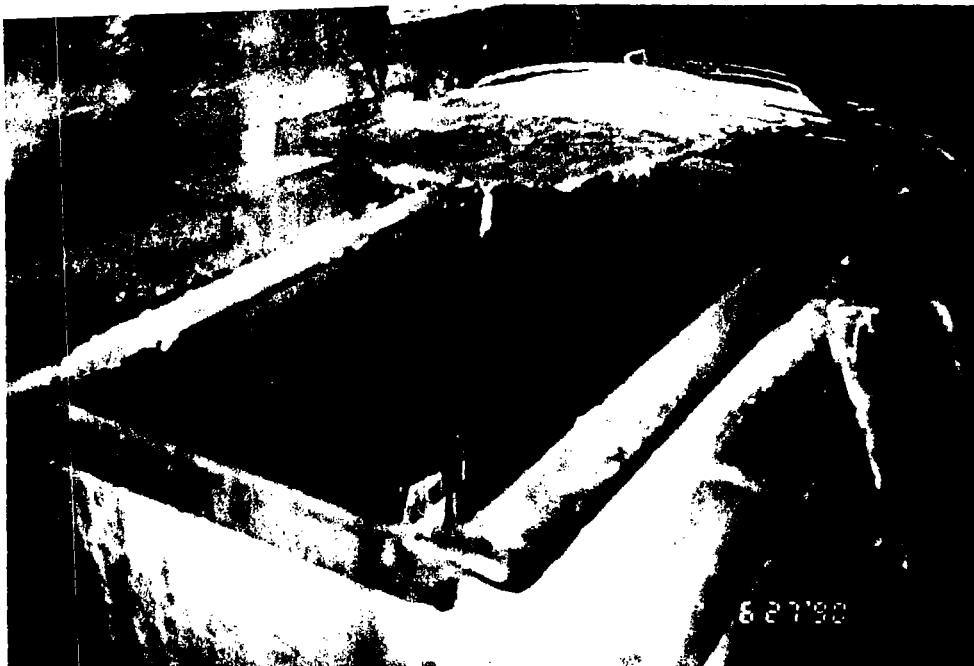


PHOTO: 11  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: UNCOVERED VAT CONTAINING UNKNOWN LIQUID.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200

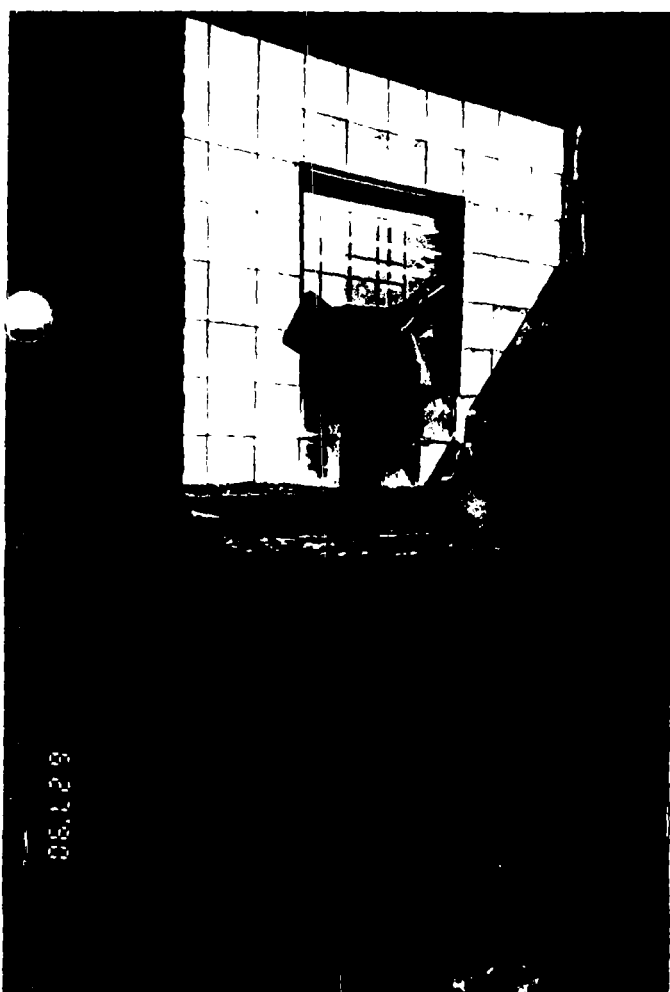


PHOTO: 12  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: BROKEN WINDOW IN BUILDING.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200



PHOTO: 13  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: BOARDED WINDOW ABOVE VAT OF UNKNOWN MATERIAL,  
 NOTE PROXIMITY TO ENTRANE AND OPEN DRUMS.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER  
 FILM: 35MM, ISO 200



PHOTO: 14  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: STORAGE TANKS OF UNKNOWN WASTES.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER  
 FILM: 35MM, ISO 200

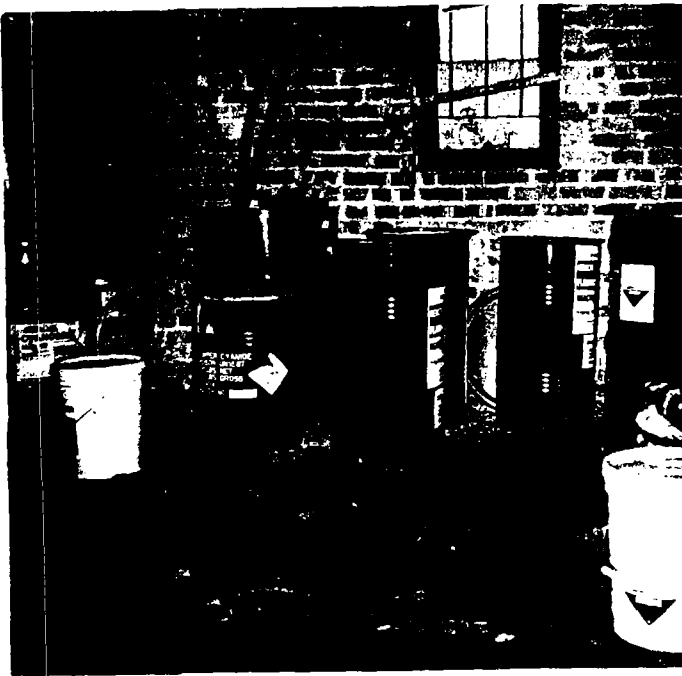


PHOTO: 15  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: CHEMICAL STORAGE ROOM, NOTE BOARDED WINDOW.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200

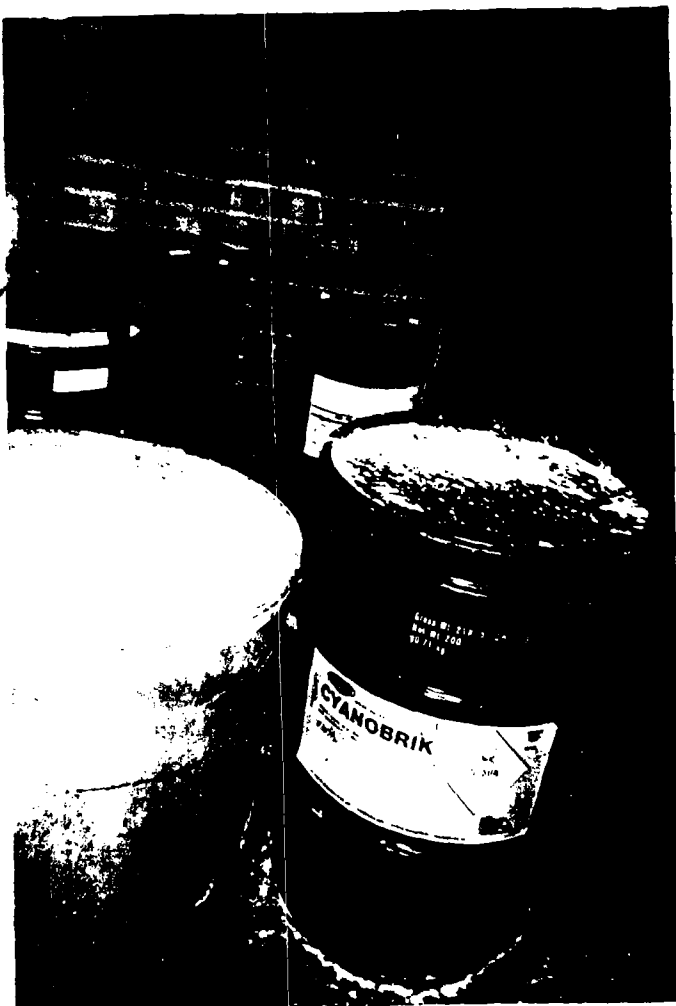


PHOTO: 16  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: UNKNOWN POWDER ON CHEMICAL DRUMS IN CHEMICAL STORAGE AREA. NOTE POISON LABEL.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200



PHOTO: 17  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: CAUSTIC CLEANER STORAGE AREA. NOTE CORROSIVE  
 LABELS AND MATERIAL ON FLOOR.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200

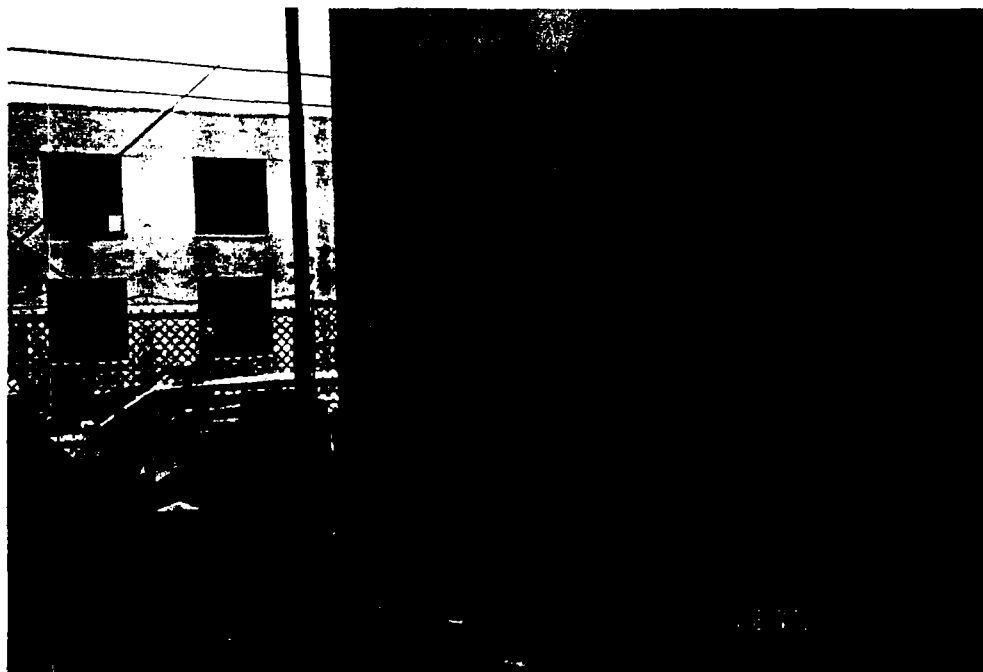


PHOTO: 18  
 SITE NAME: CHICAGO MODERN PLATING CO., CHICAGO, ILLINOIS  
 DESCRIPTION: 3000 GALLON HCl STORAGE TANK ON CEMENT SLAB IN  
 FENCED IN YARD NEAR CLARIFIERS, VIEW WEST.  
 DATE: 6-27-90  
 PHOTOGRAPHER: KIT NOLLER *KN*  
 FILM: 35MM, ISO 200

**ATTACHMENT B**  
**COST PROJECTION SCENARIO**

Projection ID No.: 2789

Date: 07/02/90

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

## =====

## Cost Projection Summary

Contractor Personnel	99,573.27
Contractor Equipment	13,463.14
Unit Rate Materials	26,773.41
Subcontractors	12,150.34
Waste Transportation	26,568.96
Waste Disposal	276,009.45

Cleanup Contractor Subtotal	<u>454,538.57</u>
-----------------------------	-------------------

Extramural Subtotal	<u>454,538.57</u>
15 % Extramural Contingency	68,180.79

Extramural Subtotal	<u>522,719.36</u>
---------------------	-------------------

TAT Personnel	33,131.05
---------------	-----------

Total TAT Costs	<u>33,131.05</u>
Extramural Subtotal	555,850.41
15 % Project Contingency	83,377.56

Total Extramural Cost	<u>639,227.97</u>
-----------------------	-------------------

EPA Regional Personnel	5,580.00
EPA Headquarters Direct	0.00
(10 % of Regional Hours)	
EPA Indirect	10,980.00

EPA Total	<u>16,560.00</u>
-----------	------------------

Project Total	<u>655,787.97</u>
---------------	-------------------

Projection ID No.: 2789

Date: 07/02/90

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

## =====

## Project Scope

Number	Step/Milestone	Estimated Duration (Days)
1	MOBE	2
2	INVENTORY/SAMPLE WASTES	3
3	COMPATABILITY TESTING	2
4	OVERPACK/STAGE DRUMS	2
5	PUMP PLATING LINES/TANKS/VATS	3
6	DECON PLATING LINES/TANKS/VATS	4
7	PREPARE LAB PACKS	2
8	DRUM/LAB PACK/BOX DISPOSAL	2
9	DEMOBE	2

Projection ID No.: 2789

Date: 07/01

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

## Contractor Personnel

Job Category	No. Emplyes	No. Days	Hrs per day	Labor	PD, Lodge Travel	Total Charge
-----------------	----------------	-------------	----------------	-------	---------------------	-----------------

Redacted-Information not relevant to selection of removal action.

## Contractor Equipment

Equipment Item	Reg Days	Stby Days	Mob/Dmob Hours	Decon Hours	Mileage	Total Charge
TRUCK BOX 2 TON	18	0	0	0	N/A	2019.52
TRLR DECON 8X40	18	0	0	0	N/A	896.34
TRLR OFF 8X40 EQUIP	18	0	0	0	N/A	1191.10
TRUCK ROAD TRACTOR	2	0	0	0	N/A	539.10
TRUCK ROAD TRACTOR	2	0	0	0	N/A	539.10
TRUCK ROAD TRACTOR	2	0	0	0	N/A	539.10
FORK LIFT 2 TON	18	0	0	0	N/A	1298.70
TANK PORTABLE HOLD	18	0	0	0	N/A	974.52
PUMP ACID	3	0	0	0	N/A	356.79
ANYL CYANIDE MONITOR	18	0	0	0	N/A	452.46
ANYL CYANIDE MONITOR	18	0	0	0	N/A	452.46
AIR COMPRESSOR	7	0	0	0	N/A	409.64
LASER WATER HIGH PR	7	0	0	0	N/A	1363.97
LOWBOY, 9 TON (HT)	2	0	0	0	N/A	264.04

Projection ID No.: 2789

Date: 07/02/90

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

Contractor Equipment

Equipment Item	Reg Days	Stby Days	Mob/Dmob Hours	Decon Hours	Mileage	Total Charge
COMPUTER PORTABLE-PC	18	0	0	0	N/A	780.74
PASSENGER VAN	18	0	0	0	N/A	568.48
SEDAN	18	0	0	0	N/A	449.52
SS DIAPHRAGM 2"	4	0	0	0	N/A	306.48
LAP COD W/BLOWER	4	0	0	0	N/A	61.08

Total Equipment Cost: 13463.14

Unit Rate Material

Material Name	Use	Unit Cost	No. Units	Total Charge
14 GAL POLY	LAB PACKS	20.00	6.0 EACH	145.37
30 GAL POLY	LAB PACKS	25.00	6.0 EACH	181.71
5 GAL POLY	LAB PACKS	17.00	5.0 EACH	102.97
AIR	BREATHING AIR	18.00	40.0 CYLINDER	872.21
COMPT. SUPPLIES	COMPAT. TESTS	2.00	200.0 EACH	484.56
CORROB	LAB PACK	15.00	15.0 BAG	272.57
DECON WATER	DECON EQUIP	0.50	5000.0 GAL	3028.50
DIESEL FUEL	EQUIPMENT	1.35	200.0 GALLONS	327.08
DRUM THIEVES	SAMPLING	3.00	4.0 50 RODS	14.54
FIBER DRUMS	CARBON DRUMS	20.00	10.0 EACH	242.28
GASOLINE	VEHICLES	1.19	200.0 GAL	288.31
NA HYPOCHLORITE	DECON	1.50	400.0 GAL	726.84
OIL DRY	LAB PACKS	3.45	2.0 BAG	8.36
OVERPACK DRUMS	OVERPACK	60.00	100.0 EACH	7268.40
PPE	PROTECTION	82.05	126.0 MAN/DAY	12523.82
SAMPLE JARS	SAMPLES	0.50	200.0 EACH	121.14

Projection ID No.: 2789

Date: 07/02/90

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

Unit Rate Material

Material Name	Use	Unit Cost	No. Units	Total Charge
VISQUEEN	COVER	34.00	4.0 ROLL	164.75
Total Unit Rate Material Cost:				26773.41

Subcontractors

Subcontractor	Service	Total Charge
COM ED	ELECTRICITY	218.05
ELECTRICIAN	ELECTRIC HOOKUP	363.42
ILLINOIS BELL	TELEPHONE/FAX LINES	121.14
MET ENV	BOX RENTAL/DROP-4	545.13
PORTABLE TOILET CO	PORTABLE TOILETS-2	460.33
REFUSE CO.	DUMPSTER	302.85
RENTAL COMPANY	FAX MACHINE	60.57
SECURITY CO.	SECURITY	6953.44
TSP	ACCEPTANCE FEES	2907.36
WATER SUPPLIER	DRINKING WATER	218.05
Total Subcontractor Cost:		12150.34

Waste Transportation

Waste Type	Amount	No. Loads	Cost per Ld. Mile	No. Miles	Total Charge
ALKALINE ZN	4000 GALLONS	1	4.00	300	1224.00

Projection ID No.: 2789

Date: 07/02/90

Cleanup Contractor: OH MATERIALS

TAT Contractor: WESTON

Waste Transportation

Waste Type	Amount	No. Loads	Cost per Ld. Mile	No. Miles	Total Charge
CARBON	10 DRUMS	1	4.00	20	81.60
CAUSTIC CLEANER	4200 GALLONS	1	4.00	300	1224.00
CHROMIC ACID	1600 GALLONS	1	4.00	300	1224.00
CN BRASS SOLN	1600 GALLONS	1	4.00	300	1224.00
CN ASS SOLN	50 -55G DRUM	1	4.00	300	1224.00
CN BRASS SOLN	50- 30G DRUM	1	4.00	300	1224.00
CN SLUDGE	80 DRUMS	2	4.00	300	2448.00
CN ZINC SOLN	3000 GALLONS	1	4.00	300	1224.00
H2SO4	800 GALLONS	1	4.00	300	1224.00
HCL	4300 GALLONS	1	4.00	300	1224.00
LAB PACKS	15 CHARGES	1	4.00	20	81.60
MISC. DRUMS	75 DRUMS	1	4.00	300	1224.00
NA HYPOCHLORITE	1500 GALLONS	1	4.00	300	1224.00
NI PLATING SOLN	2700 GALLONS	1	4.00	300	1224.00
PPE	2-30G POLY	1	4.00	20	81.60
RINSE/WASTE H2O	32550 GALLON	7	4.00	300	8568.00
SAND/DEBRIS	10 CUBIC YDS	1	4.00	152	620.16

Total Waste Transportation Cost: 26568.96

Waste Disposal

Waste Type	Disposal Method	Units	No. Units	Unit Cost	Total Charge
ALKALINE ZINC	TREATMENT	GALLONS	4000	2.00	8160.00
CARBON	INCINERATION	DRUMS	10	900.00	9180.00
CAUSTIC CLEANER	TREATMENT	GALLONS	4200	2.00	8568.00
CHROMIC ACID	TREATMENT	GALLONS	1600	4.00	6528.00

Cost Projection Scenario: CHICAGO MODERN PLATING

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Projection ID No.: 2789

Date: 07/02/91

Cleanup Contractor: OH MATERIALS

TAT Contractor: WES ON

Waste Disposal

Waste Type	Disposal Method	Units	No. Units	Unit Cost	Total Charge
CN BRASS SOLN	TREATMENT	55G DRUM	50	600.00	30600.00
CN BRASS SOLN	TREATMENT	30G DRUM	50	350.00	17850.00
CN BRASS SOLN	TREATMENT	GALLONS	1600	6.00	9792.00
CN SLUDGE	TREATMENT	DRUMS	80	800.00	65280.00
CN ZINC SOLN	TREATMENT	GALLONS	3000	6.00	18360.00
HCL 4	TREATMENT	GALLONS	800	4.00	3264.00
HCL	TREATMENT	GALLONS	4300	3.50	15351.00
LAB PACKS	INCINERATION	CHARGE	15	150.00	2295.00
MISC. DRUMS	TREATMENT	DRUMS	75	550.00	42075.00
NA HYPOCHLORITE	TREATMENT	GALLONS	1500	0.50	765.00
NI PLATING SOLN	TREATMENT	GALLONS	2700	7.00	19278.00
PPE	INCINERATION	30G POLY	2	900.00	1836.00
RINSE/WASTE H2O	TREATMENT	GALLONS	32550	0.45	14940.45
SAND/DEBRIS	LANDFILL	CU YDS	10	185.00	1887.00

Total Waste Disposal Cost:

276009.45

TAT Personnel

Level	No. TATMs	No. Days	Hrs per day	Hr Rate	Labor	PD, Lodge Travel	Total Charge
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Redacted-information not relevant to selection of removal action.

EPA REGIONAL PERSONNEL COSTS

Title	No. Days	Hrs per Day	Hr Rate	Labor	PD, Lodge Travel	Total Charge
OSC	18	10.0	31.00	5580.00	0.00	5580.00

